Concert Snare Drum, Toms and Bass Drum-Tuning and Adjustment

BY TOM FREER

Concert percussion instruments should be approached with a much different point of view than those of the Drum Corp. It is important to adjust and tune your concert equipment with this in mind due to the completely different acoustic and dynamic demands made on them. In general, your "concert" percussion instruments will have a much wider dynamic range demanded of them, and must be tuned accordingly so that the listener and player can accurately produce the full sonic spectrum that these instruments are capable of. Symphonic band music and orchestral music requires percussion instruments that can provide the extremes of subtlety, finesse and power, and it is with these goals in mind that we would like to offer these tips on tuning these instruments so that you can utilize their full potential.

BASIC SNARE DRUM TUNING AND ADJUSTMENT

Please follow these simple and basic instructions for tuning and adjusting your Pearl snare drum. In order for you to get and maintain the best possible sound out of your instrument, it will be important to save this sheet so that you can "tune up" the drum as the heads become broken in, and replace heads when necessary.

YOU WILL NEED THE FOLLOWING TOOLS TO PROCEED:

1. DRUM KEY 2. RULER

STEP ONE:

Loosen the top head completely. Place the drum on a flat surface and unscrew all the tension rods so that there is no tension on the top head. You don't need to take them out, just loosen them all the way. Next, begin to tighten down each rod just until they touch the counter hoop (or rim) WITHOUT PULLING IT DOWN. Just screw the tension rod down until it just touches. Go across the drum and do the same to the opposite tension rod and repeat, always working across the drum head in opposites, this keeps the head very even. Next, when all the tension rods are seated and just touching the counter hoop, take your ruler and beginning with the tension rod directly beside the strainer, measure the distance from underneath the counter hoop to the top of the lug. Repeat this process with the lug directly across the drum and repeat until all measurements are the same. Remember we are not concerned with how tight the head is right now, just how even the tension is. Now that the head is evenly tensioned, bring the top head up to pitch. For a 6.5" snare drum, the pitches **G - Bb** are what you should listen for (**Ab - B** for a 5" drum). Using your drum key, tighten each tension rod ONE EVEN HALF TURN always working in opposites across the drum until you come near the pitch. Use a piano or keyboard percussion instrument to help find your pitch. Make sure your snares and muffler are not on when listening to the pitch of the top head. Once you are satisfied with the top head pitch, move on to step two below to adjust the bottom head.

STEP TWO:

Turn the drum over and follow the exact same procedures described in step one above to evenly tension the bottom head. The bottom head will require more tension than the top head in the end, and will be at a higher pitch. Don't be alarmed by wrinkles that might appear on the bottom head, be patient and tension all the rods evenly as in step one. Once all the rods are evenly tensioned and the measurements are all the same by checking with the ruler, begin tightening the rods in EVEN HALF TURNS always working

across the drum in opposites. Bring the pitch of the bottom head up until it sounds a perfect fourth to a perfect fifth higher than the top head. This means if your top head sounds like the note **A**, then the bottom head should sound like **D** or **E** above that. This is a little hard to hear sometimes, and you need to do this in a very quite room with no distractions. You can hear it best if you place the drum on your stand and lightly tap the top head near the rim and then the bottom head also near the rim in order to hear the interval relationship and the note you are looking for. Again, use a piano or keyboard percussion instrument as your guide and you can't go wrong!

FINAL STEP - FINE TUNING

Fine tuning the top head will help the drum ring longer and sound better. Simply tap the head very near the rim and very softly right in front of each tension rod. Listen for exactly the same pitch at each station. If one spot sounds very much higher or lower than the other, make a small adjustment with your drum key. Remember not to over adjust, turn the rod only one quarter turn in either direction and then LISTEN again. Turn on your snare strainer and readjust your snare tension if necessary. Make sure they are responding at all dynamic levels. At this point you may also want to adjust your snare muffler to make the top head sound a little drier if needed.

Remember to keep this manual and your snare drum key handy at all times, so that you can readjust your drum whenever you need to as the heads get broken in over the first few months. If you memorize these simple steps, you will become an expert snare drum tuner and have the best sounding drum around!

CONCERT TOMS

A few simple things apply whether you have a set of two, four, six or eight toms. Begin from a standpoint that your concert instruments are not be related to your marching band instruments, i.e.: don't try to imitate the sounds you go for on the field. This generally means tuning things to a lower fundamental pitch which will ring longer and produce a fuller more projecting and long ringing sound.

DON'T OVERTIGHTEN!

Start with good heads, medium thin weight and coated. The idea is to get a warm ringing sound without sounding like the concert toms just came from a drum set. Think of imitating the sound of natural calf skin which is used in most professional orchestras. When mounting heads, start by measuring under the rim of the drum just above each lug to where the lug meets the female threaded insert. This will be an excellent starting point so that the head is balanced from the start. Simply bring the head up in pitch until there is a low pitched clear ringing sound before you try to fine tune at all. At this point don't worry with the pitch relationship between each tom, just get each individual tom to its LOWEST RINGING TONE.

Once you are satisfied that each drum is at it's lowest ringing tone, tap the head directly in front of each tension rod close to the rim to check that the head is relatively "clear" or that the pitch of each lug matches fairly closely. If the sound is very poor and you followed instructions closely, DON'T BLAME THE DRUM, try another head.

Your next step depending on how many toms you have is to try to achieve an interval difference of roughly a minor or major third between each drum. It is best to start with the lowest tom first and tensioning upward from that tom. Before you begin, you may wish to bring the lowest toms pitch up SLIGHTLY from where you found the LOWEST RINGING TONE so that the pitch is not too low and unfocussed. This method will produce a set of concert toms that sound full, resonant and projecting with a good pitch differential between each drum.

When using a large number of toms the sizes become very gradual therefore you may wish to utilize a smaller interval difference between each drum in order to maintain the drums sonic integrity and not have the highest toms too tight and choked.

Muting your concert toms is generally not recommended because it is simple enough for the player to either play dead center for a dryer more percussive sound or towards the rim for a more ringing sound. If muting is desired, it is recommended to utilize Pearl's OM-1 Outside Mufflers which provide minimal and accurate muting without ruining resonance as things like tape will.

BASS DRUM

The most important thing to remember is that this is a BASS drum. Not a tenor or soprano drum. It should be the BASS voice of the percussion section. With that in mind, first make sure that there is no muting material attached to the head or inside the drum itself. The object again, as with the concert toms,

is to bring the instrument to its lowest free ringing “singing” pitch level. We will deal with how to control ring at the end. Assuming the drum is free of any muting materials, start with good heads that are thicker coated and NOT thin uncoated plastic.

Follow the same procedures as above, measuring from underneath the hoop to where the tension rod meets the female threaded insert. With large instruments like this, it is best to do this work with the drum flat in a suspended stand of placed on a table in a flat position. Measure in opposites from one side of the drum to the other just to keep things balanced. Repeat this process on the opposite head keeping track of exactly how far the rods are pulled down. Use a ruler and keep a pen handy so that you can match this distance on the opposite head. Next put the drum in it’s playing position and listen to the drum striking the head about 6-8 inches from the dead center. It should sound very low and “flappy” at this point. This being the case, begin by turning every T-rod on the drum one full clockwise turn keeping all tension rods “square” so that none are in a half position. Listen again. The drum should start to ring long and very, very low. Experiment and bring the heads up further if needed, EVENLY, so that all tension rods move up or down in equal amounts. If these instructions are followed closely, both heads will ring evenly producing the most possible low end sound from the drum. When muting is required for marches or just short notes in general, it is best to produce this from the player. Have your percussionist try this technique for better control of the bass drum:

For a right handed player, keep your left arm stretched across the drum with the fingers touching the opposite head. Place the LEFT leg against the playing head (not the right as many do) to varying degrees for the desired amount of muffling. It is important to provide the player with some sort of foot rest. If your bass drum stand does not have one, a simple plastic milk crate can suffice or any wooden box 8-12” tall depending on the height of the drum. Using the left leg for muffling will be twice as effective as the right leg because of the increased amount of contact from the entire thigh. Most players who use the right leg are only able to get the knee to touch the head, which only raises the pitch of the head and generally does not muffle enough when needed. Again as with the concert toms, for a dryer more percussive sound, the player can also move toward the center in combination with the left leg for muffling (avoiding playing dead center).

Tom Freer *- A native of Millbrook, New York, Tom began his percussion and timpani training seriously at age 9 with Jim Atwood, a former student of Cloyd Duff. Up until then Tom had always planned on being a rock drummer because his brothers and sisters discovered he could actually play along to the “Cousin Brucie” show on the radio in time at age 5. Tom got his first drum set immediately after that and then disassembled it when he started studying with Jim Atwood, so he could use the toms as timpani. By age fifteen, he won an audition to become principal percussionist with the Asheville, North Carolina Symphony, and then principal timpanist at age 16. Tom attended the Cleveland Institute of Music where he was accepted as Cloyd Duffs last student before retiring. He continued his timpani and percussion studies there with Mr. Duff’s predecessor, Cleveland Orchestra timpanist Paul Yancich, and principal percussionist Richard Weiner, until graduating in 1986. While in school, Tom formed a band called Exotic Birds along with now Stabbing Westward drummer Andy Kubiszewski, Pittsburgh Symphony timpanist, Tim Adams and Trent Reznor of Nine Inch Nails. This was an original alternative band that toured with Culture Club and opened for many major acts of the time such as The Thompson Twins, Psychedelic Furs, Paul Young, Big Country, Modern English and others. In 1986 Tom resigned from the rock scene and headed to Stockholm Sweden, to become principal percussionist and assistant timpanist of the Norrkoping Symphony Orchestra. After one year there Tom became principal timpanist for the Fort Wayne Philharmonic for two seasons and then principal timpanist of the Alabama Symphony in Birmingham for two seasons. Tom has now been assistant principal timpanist and section percussion for the Cleveland Orchestra for seven years. He has recorded and toured with some of the greatest conductors of our time all over the world. Tom can be heard with the Cleveland Orchestra on London/Decca and Deutsche Grammophon records.*